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Class I, HEXAPODA.

Order I, HYMENOPTERA.

DESCRIPTIONS OF NEW HYMENOPTERA FROM JAPAN.—I.*

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For several years past I have been classifying, arranging and determining the Japanese Hymenoptera in the National Museum, presented by several valued correspondents, among whom special mention should be made of Dr. Mitsukuri, of Tokyo, Mr. Y. Nawa, of Gifu, Dr. Matsumura, of Sapporo, and Mr. A. Koebele, now government entomologist of the Hawaiian Islands, whose contributions are of especial value and contain many new species, particularly among the parasitic families.

The new species in the superfamilies Sphecoidea, Vespoidea, Proctotryoidea, Cynipoidea and Chalcidoidea are treated here. Those in the Ichneumonoidea and other superfamilies will be described in another paper.

Superfamily II, *SPHECOIDEA*.

Family XVI, CRABRONIDÆ.

Genus *CLYTOCHRYSUS* Morawitz.

Clytochrysus dubiosus, new species.

Female. — Length, 12 mm. Black; the mandibles, except at apex, the scape, except a line above, all tarsi, the superior edge of the pronotum, emarginate at the

* These papers contain descriptions of 115 new species from Japan, two from Formosa and one from China, one new genus and notes on five previously described species.

middle, a band at the base of the second dorsal segment, an oblong, oblique spot at the sides of the third and fourth segments, and a band at the base of the fifth segment, yellow; wings hyaline, the stigma and veins yellowish.

The head and the thorax are closely, finely punctured, opaque, the metathorax almost smooth, shining, with a few coarse transverse ridges or folds at the extreme apex, and a deep central furrow; the clypeus has a median ridge, and is clothed with a dense silvery white pubescence; the third joint of the antennæ is about as long as joints 4 and 5 united; while the abdomen is smooth and shining, impunctate, the pygidium being subogival, with fine lines laterally and at apex, the disc concave.

Male. — Length, 11 mm. Agrees well with the female, except that the abdomen is somewhat slenderer, the pygidium rounded at apex, convex above, the mandibles black, bidentate, with a broad yellow stripe within, the front femora and tarsi beneath and anteriorly, the middle and hind tibiæ beneath and the basal joint of middle tarsi are yellow: hind tarsi black.

Type. — No. 7108, U. S. National Museum.

Japan (Dr. Mitsukuri).

Family XX, PHILANTHIDÆ.

Genus *CERCERIS* Latreille.

Cerceris japonica, new species.

Female. — Length, 10 mm. Black, strongly, coarsely punctate; the mandibles, the face, including clypeus, to base of antennæ, and the orbits nearly to the apex of the eyes, the scape of antennæ, except a line above, two small spots on the pronotum, the postscutellum, two oval confluent spots at base of second dorsal abdominal segment, a very large spot on each side of the third segment, and a band at the apex of the fifth segment dilated laterally, all yellow. Wings hyaline, faintly dusky at apical margins, the stigma and costal vein yellowish, the other veins fuscous. Legs mostly yellow, with all coxæ more or less, the front and middle femora *above*, the hind femora entirely, a spot on hind tibiæ within at apex and the hind tarsi, black.

Type. — No. 7109, U. S. National Museum.

Japan (Dr. Mitsukuri).

Cerceris quinquecincta, new species.

Male. — Length, 11 mm. Agrees well with *C. japonica*, except as follows; the scape and pedicel, except a stripe above, are yellow; the hind coxæ, except at base, their trochanters, basal half of their femora and base of their tibiæ are yellow; while the abdominal segments 2-6 are banded with yellow at apex, the first segment with two yellow spots.

Type. — No. 7738, U. S. National Museum.

Japan (Dr. Mitsukuri). Described from a single specimen. This species may yet prove to be the male of *C. japonica*.

Superfamily III, *VESPOIDEA*.

Family XXXII, BETHYLIDÆ.

Genus *EPYRIS* Westwood.*Epyris atamensis*, new species.

Female. — Length, about 3 mm. Black, the head minutely closely punctate, the pronotum sparsely punctate; mandibles, palpi, the apical third of the scape, the flagellum and the legs, brownish-yellow, the femora more or less dusky, the front femora brown. Wings subfuscous, the venation pale brown.

The antennæ are somewhat stout, 13-jointed, the scape long, a little more than four times as long as thick; the first joint of the flagellum is a little longer than thick, more slender than the following joints; joints 2-10 wider than long. The mesonotum is without a trace of the parapsidal furrows, the scutellum with a transverse furrow across the base, while the metanotum has some elevated longitudinal lines. The abdomen is conically pointed, highly polished, but clothed with some sparse white hairs, the second segment being the longest, about one half longer than the third.

Type — No. 7110, U. S. National Museum.

Atami (Mr. A. Koebele). One specimen.

Genus *GONIOZUS* Förster.*Goniozus japonicus*, new species.

Female. — Length, 2.5-3 mm. Black and shining; the head with some sparse, microscopic punctures; mandibles, palpi, antennæ, trochanters, tibiæ and tarsi, yellow or brownish-yellow, the coxæ and femora black or fuscous black. Wings hyaline, the parastigma and stigma brown, the other veins pale yellowish, the basal nervure with a branch not quite as long as its first abscissa, or the part between the branch and the median vein.

The prothorax has fine, longitudinal lineations on each side, the metathorax has the sides coriaceous, but has some elevated lines above, while the abdomen is pointed and highly polished.

Type. — No. 7111, U. S. National Museum.

Gifu (Y. Nawa).

Superfamily V, *PROCTOTRYPOIDEA*,

Family LII, PROCTOTRYPIDÆ.

Genus *PROCTOTRYPES* Latreille.*Proctotrypes scymni*, new species.

Female. — Length, 3 mm. Polished black, the metathorax rugulose, without carinæ, the cauda not longer than the basal joint of the hind tarsi, or hardly so long; antennæ and legs brownish-yellow, the former faintly dusky toward apex; the second joint of the middle trochanters is produced at apex into a little tooth; wings clear hyaline, without a trace of internal veins, the subcostal vein, stigma and radius brown.

The antennæ are distinctly 13-jointed, filiform, the flagellar joints all cylindrical, the first the longest joint but only slightly longer than the second and slightly narrowed towards base, the second joint being fully four times as long as thick, or a little longer, the joints beyond gradually shortening to the last, the last being longer than the penultimate, or nearly as long as the first joint.

Male. — Differs from the female only in having the abdomen forked at apex, the antennæ longer, with the flagellum, except the first joint at base, wholly black or brown-black, the joints being a little longer, clothed with a fine, short pubescence.

Type. — No. 7113, U. S. National Museum.

Japan (Albert Koebele); Gifu (Y. Nawa).

The specimens from Mr. Koebele were bred from the woolly larvæ of a Coccinellid, *Scymnus dorcadomordes* Weise. Mr. Nawa has also bred it from a *Scymnus* larva.

Proctotrypes japonicus, new species.

Male. — Length 6 mm. Polished black; pedicel and the ring-joint reddish; palpi yellowish; legs black, the sutures of the trochanters, tips of femora, and the tibiæ and tarsi, flavo-testaceous; metathorax except a smooth space at base, rugulose, with a median carina which becomes obsolete on the posterior face. Wings hyaline, the stigma, costal and radial veins black or brown-black, the subcostal vein pale; the internal veins are wanting or indicated by brownish streaks. The antennæ are black, with the scape beneath and the pedicel yellowish.

Type. — No. 7114, U. S. National Museum.

Sapporo (Dr. Matsumura).

Family LIII, BELYTIDÆ.

Genus MIOTA Förster.

Miota hakonensis, new species.

Female. — Length, 3.6 mm. Polished black; first three or four joints of antennæ, the tegulæ, and the legs, except the hind coxæ, yellow or brownish-yellow, the flagellum, after the first joint, brown.

The antennæ are long, filiform, 15-jointed, the scape fully as long as the first and second joints of the flagellum united and stouter; all the joints of the flagellum are cylindrical; the first joint of the flagellum is a little longer than the second and the longest joint, being about five times as long as thick; the following joints to the last gradually become shorter and shorter, the penultimate being only a little more than twice as long as thick. The abdominal petiole is long, fully twice as long as the metathorax and delicately, longitudinally striated or aciculated, the rest of the abdomen being smooth and highly polished.

Type. — No. 7115 U. S. National Museum.

Hakone (Mr. A. Koebele).

Family LIV, DIAPRIIDÆ.

Subfamily I, SPILOMICRINÆ.

Genus *SPILOMICRUS* Westwood.*Spilomicrus japonicus*, new species.

Male. — Length, 3.6 mm. Polished black, the prothorax at sides *below* and the lower part of the mesopleura striated, the metathorax rugulose, the abdominal petiole long, longitudinally furrowed; antennæ longer than the body, reddish-brown, pubescent, the flagellar joints all long, cylindrical, except the first joint which is hardly one fourth the length of the second; the second joint is about seven times as long as thick, with an emargination beneath at basal fourth. Wings hyaline, faintly tinted, the marginal vein and the short radius brown-black, the former being about four times as long as thick, the radius hardly half its length, with a ray or short fuscous branch from its tip, obliquely directed inwardly, nearly parallel with the basal nervure. Under a strong lens one may also detect a delicate fuscous ray from the tip of the radius, directed outwardly and forming a long, narrow marginal cell.

Type. — No. 7116, U. S. National Museum.

Sapporo (Dr. Matsumura).

Subfamily II, DIAPRIINÆ.

Genus *DIAPRIA* Latreille.*Diapria mitsukurii*, new species.

Female. — Length, 2 mm. Polished black, impunctate, the cheeks posteriorly, the collar at the sides, the metathorax and the petiole clothed with a glittering white pubescence, denser on the cheeks and collar; head subglobose; legs, including coxæ, brownish-yellow; antennæ 12-jointed, ending in a 5-jointed club but which is not abruptly defined, the club-joints gradually enlarging from the first, which is only about twice as thick as the last funicle joint; the antennæ, except the club, are honey-yellow, the club black; the pedicel is as long as the first funicle joint but much thicker; the funicle is 5-jointed, the joints gradually decreasing in size, the last being hardly twice as long as thick at apex; the scutellum has a rather large, transverse fovea at base; the metathorax has a sharp median ridge at base which, when seen from the side, is triangular; abdomen pointed ovate, highly polished, the petiole alone sculptured or striate; the petiole is fully twice as long as thick and so densely clothed with a whitish pubescence that its sculpture is obscured.

Male. — Differs from female in having the antennæ long, 14-jointed, the flagellar joints ellipsoidal, subpetiolate, with long hairs, the second being shorter than the first, dentate beneath.

Type. — No. 7117, U. S. National Museum.

Gifu (Dr. Mitsukuri).

Family LV, CERAPHRONIDÆ.

Subfamily I, MEGASPILINÆ.

Genus **LYGOCERUS** Förster.**Lygocerus japonicus**, new species.

Female. — Length, 2 mm. Black, the head and thorax above, alutaceous, sub-opaque, the sides of the thorax highly polished, shining; antennæ 11-jointed black, the scape long, about half the length of the flagellum, the pedicel obconical, the first joint of the flagellum long, cylindrical, about four times as long as thick at apex, or a little longer, the second joint about half as long as the first and a little shorter than the third, joints 3-8 nearly equal in length, about twice as long as thick, the last fusiform; legs reddish-brown, the trochanters, knees, front tibiæ and tarsi, and middle tibiæ *beneath* and their tarsi, yellowish. Wings hyaline, the stigma and veins reddish-brown.

Type. — No. 7118, U. S. National Museum.

Atami. Described from two specimens labelled No. 1287, bred by Mr. A. Koebele from an Aphis, *Lachnus* sp., found on Pine.

Lygocerus koebelei, new species.

Female — Length, 1.5 mm. Very similar to *L. japonicus*, but smaller, the sutures of the trochanters, knees, front tibiæ and tarsi, and the extreme tips of middle and hind tibiæ, pale yellowish; the flagellum is very slightly thickened toward apex, the first joint not more than thrice as long as thick, a little longer than the second, the latter being a little longer than the third, while the joints beyond to the last are only about one and one half times as long as thick.

Male. — Differs from the female in having the scape of the antennæ, except the extreme apex, and the legs brownish-yellow, the flagellum being much longer, pilose, with the joints 1-4 excised at apex, appearing when viewed from side, as if dentate.

Type. — No. 7119, U. S. National Museum.

Atami. Described from 4 ♀ and 2 ♂ specimens bred by Mr. A. Koebele from an unknown Aphis.

Genus **DENDROCERUS** Ratzeburg.**Dendrocerus ratzeburgi**, new species. (Plate VII, Fig. 1.)

Male. — Length, 1.5 mm. Black; legs, except the middle femora and the hind legs, brownish-yellow, the middle femora brownish, the hind legs, except trochanters, knees and tibial spurs, which are yellowish, black. Antennæ black, with the flagellar joints 1 to 5 each with a long, filiform or thread-like pubescent branch, the first three or four being nearly twice as long as the scape; the first joint of the flagellum is only a little longer than thick, the following to the sixth increasing in length, joints 7 to last thickened, three or more times longer than thick. Wings hyaline, the stigma and veins brown.

Female. — Length, 1.8 mm. Black; legs wholly brown, except the articulations which are yellowish; antennæ as long as the body, black except the scape at the

extreme base. The scape has a little tooth at the basal third beneath, a character not found in *Lygocerus*.

Type. — No. 7120, U. S. National Museum.

Atami. Described from a ♂ and ♀ specimen bred by Mr. A. Koebele from an *Aphis*.

In my generic table of the *Megaspilinae* I find I have incorrectly placed this genus in the section *without* mesonotal furrows, not having seen a representative of the genus, depending entirely upon Ratzeburg's brief description and figure in placing it.

Subfamily II, CERAPHRONINÆ.

Genus APHANOGMUS Thomson.

Aphanogmus hakonensis, new species.

Femate. — Length, 0.8 mm. Head and thorax black, subopaque, the mesopleura delicately longitudinally aciculate and shining; antennæ 10-jointed, light brownish, with the three last joints black, the scape towards apex and the pedicel yellow; the flagellum is gradually thickened towards apex, the joints subquadrate in outline, the last joint large, ovate; mesonotum without a median furrow. Wings hyaline, the veins brownish. Abdomen ovate, highly polished, except some longitudinal striae at base above.

Type. — No. 7121, U. S. National Museum.

Hakone. Described from a single specimen collected by Mr. A. Koebele.

Family LVI, SCELIONIDÆ.

Subfamily I, TELENONINÆ.

Genus TELENOMUS Haliday.

TABLE OF SPECIES.

1. Second abdominal segment about twice as wide, as long or nearly so..... 2.
Second abdominal segment as long or longer than wide..... 6.
2. Pedicel of antennæ not shorter than the first joint of the funicle (none known from Japan).
Pedicel of antennæ distinctly shorter than the first joint of the funicle..... 3.
3. Thorax smooth or nearly, at the most with exceedingly minute, scattered punctures..... 4.
Thorax distinctly punctate, sometimes rugo-punctate, or rugulose..... 5
4. Legs black or brown-black, the trochanters, tips of femora, tips of tibiæ and all tarsi yellow. (Length, 0.70 to 0.75 mm.) *T. atamiensis*.
Legs except coxæ, yellow, the hind femora and tibiæ medially sometimes tinged with brown. (Length, 0.45 to 0.50 mm.) *T. nawai*.
5. Legs, except coxæ, and the first six joints of the antennæ brownish-yellow, the rest

of the antennæ black; flagellum short, joints 4 to 6 wider than long; head finely punctulate, the thorax rugulose. (Length, 1.3 to 1.6 mm.).....**T. mitsukurii**
 Legs, except coxæ, brownish-yellow, the antennæ, except the scape, brown-black; flagellum long, joints 4 to 6 longer than wide; head smooth, impunctate, the thorax finely punctulate, the scutellum smooth. (Length, 1.3 mm.)

T. hakonensis.

6. Thorax sparsely, microscopically punctate.

Legs and scape of antennæ yellow, the flagellum not short, brown. (Length, 1.4 to 1.5 mm.).....**T. gifuensis.**

Telenomus atamiensis, new species.

Male. — Length, 0.70-0.75 mm. Black and shining, the head smooth, impunctate, wider than the thorax, about $3\frac{1}{2}$ times as wide as thick, antero-posteriorly, the eyes light-colored, the mesonotum with a few very minute scattered punctures; flagellum dark brown, pubescent, the scape and the pedicel except at extreme apex which is yellowish, black; wings hyaline, pubescent, the veins brown, the marginal vein very short, only about one third the length of the stigmal vein which ends in a small knob; abdomen short oval, hardly longer than the thorax, depressed, smooth and shining, except the first segment which is delicately striated; legs black or brown-black, the trochanters, tips of femora, tips of tibiæ and all tarsi yellow.

Type. — No. 7122, U. S. National Museum.

Atami. Two specimens collected by Mr. A. Koebele.

Telenomus nawai, new species.

Female, male. Length, 0.45-0.50 mm. Black and shining, impunctate, the head about 3 times as wide as thick antero-posteriorly; antennæ light brown, the scape yellowish; wings hyaline, the veins pale, the marginal vein nearly punctiform, only a little longer than thick; abdomen broadly oval, not longer than the thorax, smooth and shining; legs pale yellow, the hind femora and tibiæ medially sometimes tinged with brown.

The male is easily known by the 12-jointed filiform antennæ, the flagellar joints from the third to the last are moniliform, the second being longer than thick. Some specimens measure only 0.30 mm. in length.

Type. — No. 7123, U. S. National Museum.

Gifu. Described from 18 specimens bred by Mr. Y. Nawa from the eggs of an unknown Lepidopteron.

Telenomus mitsukurii, new species.

Female. — Length, 1.3-1.6 mm. Black, the head finely punctulate, smoother and shining in front, the thorax finely rugulose, opaque, finely pubescent; legs, except coxæ, and first six joints of the antennæ brownish-yellow, the rest of the antennæ black or brown-black; abdomen broadly oval, a little shorter than the thorax, depressed, smooth and shining; wings hyaline, pubescent, the veins light brown or brownish-yellow.

Type. — No. 7124, U. S. National Museum.

Atami and Hakone. Described from 5 specimens collected by Mr. A. Koebele.

Telenomus hakonensis, new species.

Female. — Length, 1.3 mm. Black, the head smooth and shining, impunctate, the thorax finely punctulate, finely pubescent, but with the scutellum smooth and shining; legs, except coxæ, and the scape of the antennæ brownish-yellow, rest of antennæ brown-black; abdomen oval, as long as the thorax, smooth and shining; wings hyaline, pubescent, the veins yellowish.

Type. — No. 7125, U. S. National Museum,

Hakone. Described from two specimens collected by Mr. A. Koebele.

Telenomus gifuensis, new species.

Female. — Length, 1.4–1.5 mm. Black, the head on vertex and thorax above, except the scutellum, finely microscopically punctulate, the head in front and the scutellum smooth and shining; scape of antennæ and the legs, including coxæ, yellow or light brownish-yellow; abdomen polished, the petiole and the extreme base of the second segment striated; flagellum black or brown-black, the first joint the longest, three or more times longer than thick, much longer than the pedicel, the second joint shorter than the first, the third oblong, only a little longer than thick, the fourth rounded, the club 5-jointed, joints 1 to 4 a little wider than long.

Type. — No. 7126, U. S. National Museum.

Gifu. Described from many specimens mounted on card-board and labelled No. 74, received from Mr. Y. Nawa.

Genus DISSOLCUS Ashmead.**Dissolcus japonicus, new species.**

Female. — Length, 1 mm., black, the head shining with some sparse punctures, the thorax opaque, sericeous, minutely closely punctate, with two grooved furrows on the mesonotum; antennæ brown-black, the scape beneath at base and the extreme apex of the pedicel yellowish; legs black, the tibiæ brownish-yellow, the tarsi pale yellowish; wings hyaline, pubescent, the veins light brownish-yellow; abdomen broadly oval, polished, the first segment and the second basally longitudinally striated.

Type. — No. 7127, U. S. National Museum.

Hakone. Described from a single specimen taken by Mr. A. Koebele.

Dissolcus flavipes, new species.

Female. — Length, 1 mm. Black, impunctate, shining; antennæ brown-black, the tip of the pedicel and joints 3 and 4 of funicle yellow; legs wholly yellow; wings hyaline, pubescent, the veins brown, the postmarginal vein wanting, the stigmal vein short; abdomen oval smooth and shining, the first and second segment at base striate.

Type. — No. 7128, U. S. National Museum.

Hakone. Described from one female collected by Mr. A. Koebele.

Subfamily IV, SCELIONINÆ.

Genus **HADRONOTUS** Förster.**Hadronotus japonicus**, new species.

Female. — Length, 1 mm. Black, coarsely rugulose; scape and pedicel of antennæ and the legs, except the coxæ, rufu-testaceous, flagellum brown-black; abdomen oval, feebly shagreened, subopaque; wings hyaline, the veins brown, the marginal vein short only about twice as long as thick.

Type. — No. 7129, U. S. National Museum.

Japan. Described from one specimen collected by Mr. A. Koebele.

Hadronotus hakonensis, new species.

Female. — Length, 1.5 mm. Black, coarsely rugulose, the abdomen finely rugulose, the apex of the segments smooth and shining; legs, except coxæ, flavo-testaceous, the femora basally brownish; antennæ, except the club, brownish-yellow, the pedicel brownish above; wings hyaline, pubescent, the veins brown, the subcostal veins more or less pale yellowish.

Type. — No. 7305, U. S. National Museum.

Hakone. Described from a single specimen collected by Mr. A. Koebele.

Family LVII, PLATYGASTERIDÆ.

Subfamily I, INOSTEMMINÆ.

Genus **Allotropa** Förster.**Allotropa japonica**, new species.

Female. — Length, 0.8 mm. Black, the head and thorax, except the scutellum, faintly alutaceous, the scutellum polished, shining; antennæ yellowish, the scape towards apex and the club, brown or dusky, the club 4-jointed, the pedicel fully thrice as long as thick at apex, stouter than the funicle joints, the latter slender, the first joint the longest, the second and third small, short; legs yellowish, the coxæ, all femora and the hind tibiæ and tarsi brown. Wings hyaline, the submarginal vein light brown, ending in a small knob.

Male. — Length, 0.6 mm. Agrees with the female, except in its antennæ, which are 9-jointed, the flagellar joints nodose, briefly pedicellate, with long hairs.

Type. — No. 7130, U. S. National Museum.

Japan. Described from a female and male specimen, labelled No. 1266 and 1267, bred by Mr. A. Koebele from an unknown Cecidomyiid gall.

Subfamily II, PLATYGASTERINÆ.

Genus **AMBLYASPIS** Förster.**Amblyaspis japonica**, new species.

Female. — Length, 0.8 mm. Polished black; antennæ, except the club which is black, brownish yellow, the scape yellowish beneath; legs piceous black, the

front legs, except the femora basally, the trochanters of the middle and hind legs, and the basal half of the tibiæ and the tarsi, yellow. Wings clear hyaline. Abdomen polished black, except the petiole which is longitudinally striate and has a minute yellow spot at base above.

The scutellum is triangularly pointed, a little longer than wide at base, the extreme apex piceous; the pedicel is long, slender, about three times as long as thick at apex, the funicle joints 1 and 2 also slender, the second long, cylindrical twice as long as the first, the latter being shorter than the pedicel, joints 3 and 4 small, not longer than thick, but a little thicker than the first; club abruptly defined, 4-jointed, the joints much wider than the funicle, the first three joints nearly as wide as long.

Type. — No. 7131, U. S. National Museum.

Atami. One specimen collected by Mr. A. Koebele.

Genus SACTOGASTER Förster.

Sactogaster hakonensis, new species.

Female. — Length, 1 mm. Black, the head and thorax feebly, microscopically shagreened, subopaque, the pleura and the abdomen polishing, shining; antennæ brown-black, the scape beneath and at base flavo-testaceous; legs black, all tibiæ toward base, and all tarsi, except the last joint, yellowish; mesonotum without complete parapsidal furrows, but with a trace of them posteriorly for two thirds the length of the mesonotum; scutellum produced into a thorn-like spine at apex, with some glittering white hairs on either side at apex; abdomen with a whitish pubescence at base, the tail-like projection, which is formed by segments 3 to 6 being much narrowed, is as long as the second segment, the sixth segment being about as long as segments 3 to 5 united, the fifth a little longer than the fourth, the third hardly half as long as the third.

Type. — No. 7132, U. S. National Museum.

Hakone. One specimen collected by Mr. A. Koebele.

Genus ANOPEDIAS Förster.

Anopedias japonicus, new species.

Female. — Length, 0.7 mm. Polished black, the flagellum testaceous, yellowish at base, the trochanters, base of all tibiæ and the apex of the front tibiæ honey-yellow, the tarsi, except the last joint, yellowish-white, the metapleura and the base of the abdomen clothed with a silvery-white pubescence. Wings clear hyaline, faintly pubescent. The antennæ are folded and so covered with glue that they cannot be described in detail.

Type. — No. 7133, U. S. National Museum.

Hakone. One specimen collected by Mr. A. Koebele.

Genus POLYGNOTUS Förster.

Polygnotus gifuensis, new species.

Male. — Length 1.6 mm. Polished black, the mesonotum without parapsidal furrows; legs, except tips of front femora, front tibiæ and tarsi, which are testaceous,

wholly black; antennæ, except the extreme apex of the scape and the pedicel which have a testaceous tinge, black; the flagellum is filiform, the first joint very minute, rounded, the second larger, globular, the following to the last oblong, longer than thick, about $1\frac{1}{2}$ times as long as thick, the last joint ovate.

Type. — No. 7134, U. S. National Museum.

Gifu. Described from four male specimens, labelled No. 74, received from Mr. Y. Nawa.

Superfamily VI, *CYVIPOIDEA*.

Family LVIII, *FIGITIDÆ*.

Subfamily I, *ONYCHIINÆ*.

Genus *ONYCHIA* Haliday.

Onychia japonica, new species.

Female. — Length 5-5.5 mm. Black, the scutellum with a yellow spot on each side towards the base, the front tibiæ toward base and beneath, the front tarsi, joints 2-4 of middle tarsi and joints 2-4 of the hind tarsi, yellowish. The head and thorax are shagreened, opaque, and more or less transversely rugulose; ocelli yellowish, the front ocellus placed in a smooth depression, surrounded by a delicate carina; eyes brown; antennæ long, about two thirds the length of the body, black, the first joint of the flagellum the longest joint, the last joint the next longest, only a little shorter than the first but almost as long as the two preceding joints united; middle carina of the mesonotum forked at apical third, the cell thus formed finely transversely rugulose. Wings hyaline, glabrous or nearly, the veins pale yellowish, the costal and marginal cells confluent. The metathorax is rugulose and pubescent with sometimes a yellowish spot where the petiole is attached. The abdomen is polished black, ovate, shorter than the thorax, the petiole opaque, aciculated.

Male. — Agrees well with the female except that the antennæ are 14-jointed, fully as long as the body, the joints longer proportionally, cylindrical; the first flagellum joint is not longer than the second, subemarginate outwardly at basal half; the veins of the front wings are tinged with brown, while the abdomen is more obtuse at apex than in the female.

Type. — No. 3135, U. S. National Museum.

Atami, Hakone and Nikko. Described from one male and four female specimens collected by Mr. A. Koebele.

Subfamily III, *ANACHARINÆ*.

Genus *XYALASPIS* Hartig.

Xyalaspis atemiensis, new species.

Female. — Length, 2.8 mm. Black, with yellow mandibles, the antennæ and the legs, except coxæ, hind femora basally and hind tarsi, brownish-yellow, the scape towards base and the flagellum towards apex are dusky; the coxæ, hind femora

basally, tips of hind tibiae and their tarsi are fuscous or blackish. Wings hyaline, the veins yellowish. The antennæ are 13-jointed, nearly as long as the body, the flagellum very slightly and gradually thickened towards apex, the last joint being nearly as long and as thick as the scape, but hardly as long as the two preceding joints united. Head smooth, polished, except a few wrinkles on the cheeks; thorax mostly smooth, but with the pronotum, the scutellum and the metathorax rather coarsely rugulose, the scutellum ending in a blunt spine. Abdomen polished black, except beneath towards base, where it is piceous or rufo-testaceous; the petiole is short and striated.

Type. — No. 7136, U. S. National Museum.

Atami. Described from two female specimens collected by Mr. A. Koebele.

Subfamily VI, XYSTINÆ.

Genus **XYSTUS** Hartig.

Xystus japonicus, new species.

Male. — Length, 1.1 mm. Wing expanse about 3.8 mm. Head yellow, the eyes black; thorax brownish-yellow, the mesonotum with a median streak and a lateral spot towards each tegula, and the disk of the scutellum dark brown; abdomen black, beneath and at apex yellowish. Wings hyaline, the venation, except the costæ basally which are yellowish, light brownish. The antennæ are longer than the whole insect, 14-jointed, the basal third yellow, the apical two thirds dusky or brownish, joints 2 and 3 slightly curved, about equal in length and only a little shorter than the first, a little more than four times as long as thick, the joints beyond cylindrical, very imperceptibly shortening to the last, which is only a little more than twice as long as thick.

Type. — No. 7137, U. S. National Museum.

Japan. Received from Mr. A. Koebele, labelled No. 1268 and bred from an Aphis.

Family LIX, CYNIPIDÆ.

Subfamily I, SYNERGINÆ.

Genus **SYNERGUS** Hartig.

Synergus atamiensis, new species.

Female. — Length, 3.5 mm. Black, the head and thorax coarsely rugulose, the disk of the mesonotum transversely rugulose, the mesopleuræ with longitudinal striæ, the scutellum rugulose, with a median impression at apex; abdomen, except the petiole, smooth and shining; antennæ 14-jointed, entirely pale yellowish; legs, except the coxæ, base of front femora and the middle and hind femora which are black or brown-black, flavo-testaceous, the hind tibiae, except at base and apex, fuscous; wings hyaline, the veins light brown.

Type. — No. 7306, U. S. National Museum.

Atami. Described from two specimens collected by Mr. A. Koebele.

Synergus gifuensis, new species.

Female. — Length, 3 mm. Black, the head and thorax rugulose, the disk of the mesonotum with fine, transverse rugæ, the scutellum finely, closely punctate, convexly rounded, without a median impression towards apex; abdomen smooth and shining, the sheaths of the ovipositor very briefly projecting beyond its tip; antennæ and legs brownish-yellow, the pedicel basally brown, the coxæ and hind femora, except at apex, black, the hind tibiæ and the basal joint of their tarsi, light brown; wings hyaline, the veins yellowish. The antennæ are long, 14-jointed.

Type. — No. 7307, U. S. National Museum.

Gifu. Described from three specimens, labelled No. 43, received from Mr. Y. Nawa.

Synergus hakonensis, new species.

Female. — Length, 1.8 mm. Black, the head and thorax finely rugulose, with transverse rugæ on the lobes of the mesonotum, the scutellum punctate-rugose, convexly rounded, the mesopleura shining but with some longitudinal striæ; abdomen black and shining, the sheaths of the ovipositor not at all projecting; antennæ and legs, except the coxæ and femora, pale yellow, the front and middle coxæ, middle and hind femora, except at apex, brownish-piceous, the hind coxæ black; wings hyaline, the veins pale yellowish. The antennæ are 13-jointed.

Type. — No. 7307, U. S. National Museum.

Hakone. Described from a single specimen collected by Mr. A. Koebele.

Synergus japonicus, Walker.

Dr. Mitsukuri has sent eight specimens of this species taken, I believe, by Mr. Nawa, at Gifu.

Genus CEROPTRES Hartig.**Ceroptres japonicus, new species.**

Male. — Length, 2 mm. Black, shining, the head and thorax finely pubescent, the head smooth, impunctate; antennæ and legs brownish yellow, the hind coxæ black or dusty, the hind tibiæ and tarsi more or less fuscous. Wings hyaline, the veins brownish. The antennæ are 13-jointed, cylindrical, the third joint the longest, the fourth only two-thirds the length of the third, the following to the last very imperceptibly shortening, the last long, nearly as long as the third.

Type. — No. 7138, U. S. National Museum.

Gifu. Described from three male specimens, received from Mr. Y. Nawa, who bred them from a bud-like gall on oak, irregularly rounded, depressed, about 3 mm. in diameter and of a dark brownish-black color. The gall is mounted on card-board, with the wasps, and I cannot tell whether it is a bud-gall, a leaf-gall, or a twig-gall. It may be produced by one of the genuine gall-wasps described below under the genera *Neuroterus*, *Dryophanta*, or *Callirhytis*.

Subfamily II, CYNIPINÆ.

Tribe I, CYNIPINI.

Genus **NEUROTERUS** Hartig.**Neuroterus nawai**, new species.

Female. — Length, 1.9 mm. Polished black; mandibles, palpi, four or five basal joints of antennæ, and the legs pale yellowish or luteous, the apical two thirds of the antennæ brownish. Wings hyaline, the veins brown, the radius pale towards apex; the marginal cell is long, about five times as long as wide at base. The antennæ are 14-jointed, nearly as long as the body, the third joint the longest, nearly five times as long as thick, the following very slightly decreasing in length to the last, the penultimate being not more than twice as long as thick.

Male. — Length, 1.7 mm. Distinguished at once from the female by the small compressed, triangularly-shaped abdomen, which is distinctly petioled, the petiole being nearly as long as the hind coxæ, by the antennæ which are longer than the body, brown-black, except the first three joints which are yellow, the third joint being excised towards basal half, and by the color of the legs which are straw yellow, with the hind coxæ basally and the apical two thirds of the hind tibiæ dusky or brownish.

Type. — No. 7139, U. S. National Museum.
Gifu (Y. Nawa); Hakone (A. Koebele).

Neuroterus atamiensis, new species.

Female. — Length, 1.1 mm. Polished black; antennæ, except a pale annulus at base of the third joint, wholly black; legs piceous black, the sutures of the joints alone pale. Wings hyaline, the veins brownish-piceous, the marginal cell very long, more than six times longer than wide at base.

Type. — No. 7140, U. S. National Museum.

Atami. Described from a single specimen taken by Mr. A. Koebele.

Neuroterus hakonensis, new species.

Female. — Length, 1.6 mm. Black and shining, impunctate; first four or five joints of the antennæ and the legs, including coxæ, brownish-yellow, the rest of the antennæ fuscous; wings hyaline, the veins, except the basal nervure and the apex of the first abscissa of the radius which are brown, pale yellowish. The antennæ are 14-jointed, not quite as long as the body, the second and third joints (an unusual character in this genus) about equal in length and only about four times as long as thick.

Type. — No. 7309, U. S. National Museum.

Hakone. Described from four specimens collected by Mr. A. Koebele.

Genus **DRYOPHANTA** Hartig.**Dryophanta japonica**, new species

Female. — Length, 3 mm. Polished black, shining, the head on the vertex alutaceous; two basal joints of antennæ, a very narrow annulus at apex of the first

and second joints of the flagellum, the mandibles, except teeth, the extreme apex of the cheeks where the mandibles are attached, and the legs, except the coxæ, honey-yellow; the flagellum, except as already noted, is black, the first joint the longest, one third longer than the second, the following to the sixth gradually decreasing in length, joints 7 to 11, scarcely longer than thick, the twelfth or last antennal joint fusiform, longer than the penultimate; wings hyaline, very long, the veins dark brown.

Type. — No. 7141, U. S. National Museum.

Japan (exact locality not stated). Described from a single specimen collected by Mr. A. Koebele.

***Dryophanta serratæ*, new species.**

Gall. — An irregular globular gall from 8–10 mm. in diameter, covered with numerous thread-like, fibrous filaments, each filament being densely clothed with a grayish or whitish wool-like substance.

Gall-wasp. Female. — Length, 3 mm. Head and thorax shagreened, light-brown, pubescent, the head more yellowish, the mesothorax with four black glabrous lines, two on the middle lobe and one on each lateral lobe, the lobes well defined by shagreened depressions, the disks of the lobes posteriorly shining; scutellum finely shagreened with two foveæ at base; hind femora with a brownish-black stripe above, the tibiæ and tarsi dusky behind; abdomen black, shining. Wings hyaline, the nervures brown, the second cubital cell with four irregular fuscous marks, the first near the base represented by a long streak, another parallel with the first just back of it is twisted, between it and the radius is a small, almost triangular spot, while back of this is another slightly curved, longitudinal streak; there are also some faint fuscous marks in the discoidal cell.

Type. — No. 7142, U. S. National Museum.

Sapporo. Described from a single specimen mounted on cardboard with its gall, found by Dr. Matsumura on *Quercus serrata*.

***Dryophanta brunneipes*, new species.**

Female. — Length, 2 mm. Black and shining, the head on vertex and the disk of the mesonotum finely alutaceous, the scutellum rugulose; the antennæ are 14-jointed, black or brown-black, the extreme base and apex of the third joint yellowish; legs dark brown, the coxæ black, all knees, extreme tips of tibiæ, and the tarsi, except the last joint, honey-yellow; wings long, hyaline, the nervures dark brown.

Type. — No. 7310, U. S. National Museum.

Hakone. Described from two specimens collected by Mr. A. Koebele.

***Dryophanta nawai*, new species.**

Female. — Length, 2.8 mm. Black and shining, the head on vertex and the pronotum, shagreen or wrinkled, the disk of the mesonotum smooth and highly polished, the scutellum and metathorax rugulose, opaque; the 14-jointed antennæ, except toward tips and the legs, including the coxæ, are brownish-yellow or honey-yellow, the tips of the antennæ more or less dusky; wings hyaline, the veins brown.

Type. — No. 7311, U. S. National Museum.

Gifu. Described from three specimens, labelled No. 41, received from Mr. Y. Nawa.

Dryophanta hakonensis, new species.

Female. — Length, 2–2.2 mm. Black and shining, the pronotum laterally more or less shagreened, the scutellum rugulose, opaque; antennæ 14-jointed, black or brown-black, except the apex of the pedicel, and an annulus at apex of the first joint of the flagellum which are yellowish; legs honey-yellow, the front and middle coxæ basally and the hind femora tinged with brown, the hind coxæ black; wings hyaline, the veins brown.

Type. — No. 7312, U. S. National Museum.

Hakone. Described from five specimens received from Mr. A. Koebele.

Dryophanta mitsukurii, new species.

Female. — Length, 1.5–1.6 mm. Polished, shining, the head, the antennæ, except the apical 5 or 6 joints, and the legs are all brownish-yellow; the abdomen is black; while the eyes, the 5 or 6 apical joints of the antennæ, a stripe down the middle mesothoracic lobe, and the nervures of the front wings are brown.

Type. — No. 7313, U. S. National Museum.

Atami. Described from seven specimens collected by Mr. A. Koebele. The species is named in honor of Dr. Mitsukuri, of the Imperial University of Tokyo.

Genus ANDRICUS Hartig.

Andricus japonicus, new species.

Female. — Length, 5 mm. Black and shining, the head and thorax above feebly punctate, the latter above well clothed with a sericeous pubescence, the scutellum finely rugulose punctate; antennæ and legs black, the tarsi with a rufo-piceous tinge; wings hyaline, the veins brown, the basal abscissa of the radius angulated.

Type. — No. 7314, U. S. National Museum.

Hakone. Described from a single specimen received from Mr. A. Koebele.

Genus CALLIRHYTIS Förster.

Callirhytis hakonensis, new species.

Female. — Length, 4 mm. Black, finely punctate, and clothed with a sericeous whitish pubescence, the scutellum finely rugulose; antennæ brown-black; legs dark-reddish, with the hind tibiæ and a spot at base of hind coxæ fuscous; wings hyaline, the veins brown, the first abscissa of the radius acutely angulated.

Type. — No. 7315, U. S. National Museum.

Hakone. Described from a single specimen received from Mr. A. Koebele.

Callirhytis tobiiro, new species.

Female. — Length, 3 mm. Head and thorax, except the occiput, the grooved lines on the thorax and the mesopleura which are black, brownish-yellow, sparsely punctate, pubescent, the scutellum rugulose; antennæ 13-jointed, brown-black, the third joint one half longer than the fourth, the others to the last gradually shortening, joints 6–12 only a little longer than thick; legs and abdomen, except a fuscous or blackish spot above at apex, reddish, the hind tibiæ subfuscous.

Type. — No. 7316, U. S. National Museum.

Hakone. Described from five specimens collected by Mr. A. Koebele.

Tribe II, RHODITINI.

Genus RHODITES Hartig.

The only species so far recorded from Japan is *R. Japonica* Walker, described in 1876.

Rhodites hakonensis, new species.

Female. — Length, 3 mm. Head and thorax, except the scutellum which is rugulose, black and shining; ocelli pale; antennæ long, filiform, dull black; legs flavo-testaceous, the two basal joints of hind tarsi fuscous; abdomen wholly red; wings hyaline, the nervures dark brown, the radial cell with a fuscous cloud at base and along the long second abscissa of the radius, also surrounding the large triangular areolet, but more faintly.

Type. — No. 714, U. S. National Museum.

Hakone. Described from a single specimen received from Mr. A. Koebele.

Superfamily VII, *CHALCIDOIDEA*.

Family LXI, TORYMIDÆ.

Subfamily II. TORYMINÆ.

Genus TORYMUS Dalman.**Torymus japonicus, new species.**

Male. — Length, 1.5 mm. Aeneous black, with brassy tingsings, smooth except a slight shagreening of the mesonotum; flagellum black, the joints being a little wider than long; legs aeneous black to the base of the tibiæ, the tibiæ and the tarsi pale yellowish. Wings hyaline, the veins yellowish.

Type. — No. 7144, U. S. National Museum.

Gifu. Described from a single specimen taken by Mr. Y. Nawa, in October, and mixed with No. 73.

Torymus sapporoensis, new species.

Female. — Length, 3 mm.; ovipositor 2 mm. Metallic gold-green, the scutellum blue-green, with purplish reflections, the head below the antennæ and the abdomen

on the dorsum bluish, but bright green and cyaneous at the sides and beneath; legs, except the middle and hind coxæ, light brownish-yellow, the tarsi, except the last joint, yellowish-white, the last joint fuscous; pedicel æneous; flagellum dull, brown-black, pubescent; wings clear hyaline, the veins pale yellowish. The head and thorax are shagreened, the large hind coxæ reticulated on the basal two thirds, smooth or nearly at the apical third; the abdominal segments at the sides are delicately shagreened.

Type. — No. 7145, U. S. National Museum.

Sapporo. Described from a single female received from Dr. Matsu-mura.

Torymus gifuensis, new species.

Female. — Length, 2 mm.; ovipositor about twice the length of the abdomen. Metallic bronze-green, the axillæ, the scutellum, the metathorax, and the hind coxæ cupreous; head and thorax shagreened; abdomen smooth, æneous black, with a bluish tinge in certain lights; scape and pedicel æneous black, the flagellum dull, brown-black, pubescent; legs metallic greenish, the tibiæ and tarsi, except terminal joints, pale yellowish, the hind coxæ bright cupreous. Wings hyaline, the veins brown.

Male. — Length 1.8-2 mm. Head and thorax bright metallic-green, shagreened, the abdomen smooth, æneous-black; antennæ black, the joints of the flagellum hardly longer than wide; legs with the apices of all femora, the tibiæ and tarsi, yellow, the hind tibiæ more or less brownish from the middle to near apex; otherwise similar to female.

Type. — No. 7146, U. S. National Museum.

Gifu. Described from one male and two female specimens, labelled No. 74, received from Mr. Y. Nawa.

Subfamily III, MONODONTOMERINÆ.

Genus MONODONTOMERUS Westwood.

Monodontomerus japonicus, new species.

Female. — Length, 3 mm.; ovipositor less than half the length of the abdomen. Blue, the head and thorax, sparsely, feebly punctate, the scrobes metallic green, shining; ocelli red; scape, except at apex, reddish-brown, the pedicel æneous black, the flagellum dull black, the joints, after the first, a little wider than long; front and middle tibiæ and all tarsi, honey-yellow, the middle tibiæ more or less fuscous above, the hind tibiæ wholly fuscous or black; rest of legs blue. Wings hyaline, the veins brown-black, the stigmal vein ending in a long uncus which is obliquely directed towards the postmarginal vein and forms nearly a closed marginal cell; the stigmal vein is enclosed by a fuscous cloud. Abdomen polished, shining, with the segments 4 and beyond, clothed with a whitish pubescence.

Male. — Length, 2.2 mm. Agrees well with the female in color except that the scape is æneous above and the head on the vertex is metallic green.

Type. — No. 7147, U. S. National Museum.

Nikko. Taken by Mr. A. Koebele.

Subfamily IV, PODAGRIONINÆ.

Genus **PODAGRION** Spinola.**Podagrion quinquedentatus**, new species.

Male. — Length, 3.4 mm. Dark bluish-green, the front of the head metallic-green; scape of antennæ and legs, except the coxæ and the hind femora, which are of a dark metallic-bluish tinge, brownish-yellow, the hind tibiæ brown or dark fuscous; the swollen hind femora are armed with *five* teeth beneath; flagellum brown-black. Wings hyaline, the veins brown. Abdomen æneous black, but yellow beneath for half its length at base.

Type. — No. 7148, U. S. National Museum.

Hong-Kong, China. This species was taken by Mr. A. Koebele; it is evidently allied to *P. sinensis* Walker.

(*To be continued.*)

THE PHILANTHIDÆ OF NEW MEXICO.—I.

BY H. L. VIERECK, AND T. D. A. COCKERELL,

NEW HAVEN, CONN.

COLORADO SPRINGS, COL.

Genus **EUCERCERIS** Cresson, 1865.

TABLE OF SPECIES (alternative).

- | | |
|---|-----------------------|
| 1. Legs yellow and black; base of metathorax striate..... | 2. |
| Legs red, reddish or with some yellow..... | 3. |
| 2. Mesothorax very sparsely punctured..... | striareata . |
| Metathorax quite closely punctured..... | chapmanæ . |
| 3. Head black with a yellow, rarely red, spot above or just back of each eye... | 4. |
| Head with much red, or at least a red or brownish patch on cheeks..... | 7. |
| 4. Enclosure of metathorax punctured; scutellum entirely black..... | montana . |
| Enclosure of metathorax transversely striate; scutellum with light markings.. | 5. |
| 5. Abdomen without red | 6. |
| Second segment of abdomen at least red..... | tricolor . |
| 6. Scutellum and enclosure without yellow spots..... | simulatrix . |
| Scutellum and enclosure with yellow spots..... | fulvipes . |
| 7. Sides of mesothorax sparsely punctured on a shining ground | 8. |
| Sides of mesothorax closely punctured, the punctures more or less confluent.. | 9. |
| 8. Top of head red except between the ocelli or occiput partly black; clypeus of ♀ with a prominent projection..... | unicornis . |
| Top of the head black with red intruding laterally | rubripes . |
| 9. Larger; head largely, cheeks and vertex red; clypeus of ♀ with a prominent median projection..... | fulviceps . |
| Smaller | 10. |
| 10. Region on each side of ocelli usually black; a prominent process on each side of clypeus in ♀ | canaliculata . |